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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,802

07/12/2006

Jon Erik Brennvall

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DENNISON, SCHULTZ & MACDONALD  
1727 KING STREET  
SUITE 105  
ALEXANDRIA, VA 22314

EXAMINER

DESAI, NAISHADH N

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,802	<b>Applicant(s)</b> BRENNVALL ET AL.	
	<b>Examiner</b> NAISHADH N. DESAI	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Species I (or A) corresponding to claims 1-6 and 12-14 according to applicant in the reply filed on 11/15/2007 is acknowledged.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 6/28/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Barthalon et al (US 3707924).

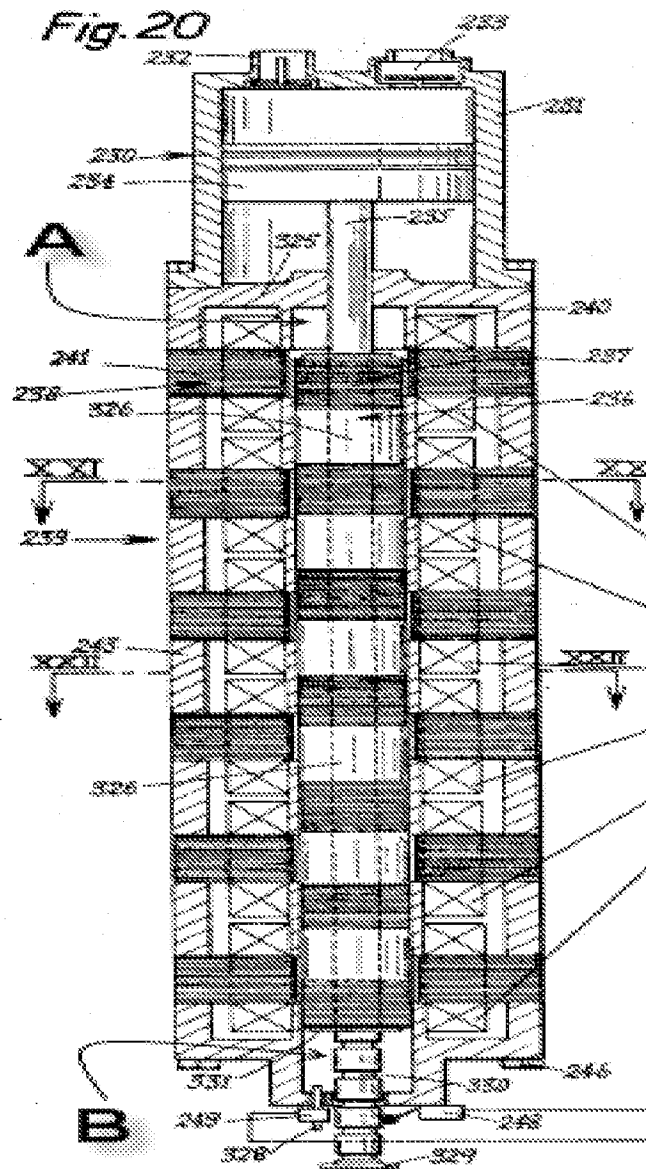
4. As per independent claim 1:

Machine with an electromechanical converter (abstract), with a linear movable piston (Fig 20,234) which is arranged in a tubular cylinder (Fig 20,231) to operate as a working

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element in a motor or a generator (abstract) and which is provided with magnetic elements (abstract) which establish an outwardly directed electrical field of force (Col 17 ll 58-63), which is effective towards a surrounding row of tubular coils (Fig 20,240 and 241), where at each end of the cylinder is formed a gas spring which forms a resonance-effective arrangement (Fig 20, A and B below), and where the interaction between the magnetic fields of the coils (Fig 20,240) and the magnetic elements (Fig 20,237) respectively obtain energy transmission between the electrical energy in the coils and the mechanical energy of the axial movement of the piston (Fig 20,234) in the cylinder (Fig 20,231), characterized in

- that the cylinder (Fig 20,231) is closed to form tight end chambers, so that there at each end of the piston there is formed a gas spring of high pressure (chamber area above and below piston in Fig 20,234),
- that the piston supports a row of centrally placed tubular permanent magnets (Fig 20,237) or alternative coils (Fig 20,240), and
- that the cylinder (Fig 20,231) comprises a row of coordinated coils (Fig 20,240) or alternative permanent magnets for increasing the machine's piston area and/or the piston's length of stroke.



5. As per dependent claim 2:

Machine according to claim 1, characterized in that the piston (Fig 20,234) comprises a concentric row of tubular magnetic elements (Fig 20,237) which are placed with a mutual intermediate gap (Fig 21,242), and that in these gaps are arranged tubular coil arrangements with coils (Fig 20,240) for increasing the area of the piston.

6. As per dependent claim 3:

Machine according to claim 2, characterized in that the piston (Fig 20,234), is at least on one end, connected to a piston bar (Fig 20,235), said piston bar is guided out through an end chamber for transferring the mechanical energy to or from the machine (Fig 20 shows that the piston bar is guided through an end chamber to transfer mechanical energy to or from the machine).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4-6 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barthalon et al (US 3707924).

7. As per dependent claim 4:

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Machine according to claim 2, characterized in that the mass of the piston is over 4 kg.

Barthalon et al discloses the claimed invention (including “oscillation of a pump of a large size” in Col 18 l 39) except for the shape or size of the piston to be over 4 kg. It would have been an obvious matter of design choice to make the mass of the piston to be over 4kg, since such a modification would have involved a mere change in the shape of a component. A change in shape or size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

8. As per dependent claim 5:

Machine according to claim 2, characterized in that the area of the piston with a machine with a length of stroke of about 10 cm is greater than  $0.03\text{m}^2$ .

Barthalon et al discloses the claimed invention (including the stroke exceeding a predetermined value in Col 18 l 49) except for the shape or size of the piston to be greater than  $0.03\text{m}^2$ . It would have been an obvious matter of design choice to make the area of the piston greater than  $0.03\text{m}^2$ , since such a modification would have involved a mere change in the shape of a component. A change in shape or size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

9. As per dependent claim 6:

Machine according to claim 2, characterized in that the pressure inside the casing at each side of the piston (Fig 20,234) in the end chambers (Fig 20, A and B) is over 10, preferably over 30 bar.

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(Fig 20 clearly shows that the pressure inside the piston chambers (above and below the piston) are controllable by the valves (elements 232 and 233). It would have been obvious to a person having ordinary skills in the art to modify and adjust the pressure inside the chambers to match the specific needs).

10. As per dependent claim 12:

In combination, a machine according to claim 1, and an element which shall be vibrated, the machine being placed directly on the element without a piston bar.

Barthalon et al discloses the claimed invention except for mentioning that the device (without a piston bar) can also be placed on an element to be vibrated. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ2d 1647 (1987)*.

11. As per dependent claim 13:

Application Combination according to claim 12, characterized in that the machine will be coupled on the rear of the bit of a drill steel for drilling for oil and mining operations, to generate hammer drilling with an ordinary drill.

12. As per dependent claim 14:

Application Combination according to claim 12, characterized in that the machine will be coupled to a tube or a beam which shall be driven down into the ground.



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As per claims 13 and 14 above, Barthalon et al discloses the claimed invention except for mentioning that the device can also be used as a drill for drilling oil or driven into the ground. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

### **Conclusion**

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Naishadh N Desai  
Patent Examiner

/Darren Schuberg/  
Supervisory Patent Examiner, Art Unit 2834